

CLAIMS

What is claimed is:

1. A system for the display and control of music selection in a hand-held portable multi-media device, the system comprising:
 - a housing sized to be held by a user;
 - a circuit board within the housing;
 - a battery power supply to provide electrical power to electrical circuitry on the circuit board;
 - a data structure to store a plurality of music data files, each music selection data file having identification data associated therewith;
 - a display to display data comprising a playlist indicating music data files to be played;
 - an input device operable by the user to select identification data associated with desired music data files for the playlist;
 - a processor responsive to the input device to select the music data files for the playlist based on the user selected identification data;
 - a CODEC to receive the selected music data files and convert the selected music data files to audio data; and
 - an audio output driver coupled to the CODEC to receive the audio data therefrom, the audio output driver further having an output and providing analog signals to the output for connection to an audio output device.
2. The system of claim 1 wherein the data structure contains music data files having different data format types.
3. The system of claim 1 wherein the data associated with the stored music data files comprises song names and the display displays the song names, the user

manually generating the playlist by operating the user input device to select song names and the processor generating the playlist based on the selected song names.

4. The system of claim 1 wherein the data associated with the stored music data files comprises metatags and the display displays the metatags, the user generating the playlist by operating the user input device to select metatags and the processor generating the playlist based on the selected metatags.

5. The system of claim 1, further comprising an associated data structure wherein the associated data comprises a plurality of data types, the processor analyzing the music data file to determine one or more associated data types and storing each of the data types for each music data file in the associated data structure in association with the music data file.

6. The system of claim 5 wherein the processor selects the music data files for the playlist by generating an indicator to indicate a storage location in the associated data structure for an associated data type for each of the selected music data files.

7. The system of claim 1 wherein the associated data comprises a plurality of data types and the user selects a desired data type using the user input device, the display displaying the user-selected data type associated with each of the plurality of music data files.

8. The system of claim 1 wherein the associated data comprises a plurality of data types and the display displays all associated data types for a user-selected one of the music data files.

9. The system of claim 1, further comprising a selection data structure wherein the playlist is stored for subsequent use.

10. The system of claim 1 wherein the processor alters the stored playlist and wherein the altered playlist is stored for subsequent use.

11. The system of claim 1 wherein the processor is responsive to the input device to select music data files based on user-selection of a plurality of identification data associated with the music data files.

12. A method for the automatic control of music selection in a hand-held portable multi-media device, the method comprising:

storing a plurality of music data files, each music selection data file having identification data associated therewith;

sensing user operation of an input device to select identification data associated with desired music data files for the playlist;

selecting a portion of the music data files to generate the playlist based on the user selected identification data;

processing the selected music data files with a CODEC to convert the selected music data files to audio data; and

providing the audio data to an output for connection to an audio output device.

13. The method of claim 12 wherein the music data files have different data format types.

14. The method of claim 12 wherein the data associated with the stored music data files comprises song names, the method further comprising displaying the song names and sensing user-operation of the input device to manually generate the

playlist by operating the user input device to select song names wherein selecting comprises generating the playlist based on the selected song names.

15. The method of claim 12 wherein the data associated with the stored music data files comprises metatags, the method further comprising displaying the metatags and sensing user-operation of the input device to select metatags wherein selecting comprises generating the playlist based on the selected metatags.

16. The method of claim 12 wherein the associated identification data comprises a plurality of data types, the method further comprising analyzing the music data file to determine one or more associated data types and storing each of the data types for each music data file in association with the music data file.

17. The method of claim 12, further comprising sensing user input to select a plurality of identification data wherein selecting music data files is based on the user-selected plurality of identification data associated with the music data files.

18. A computer-readable media that causes a processor to control of music selection in a hand-held portable multi-media device by performing the steps of:
storing a plurality of music data files, each music selection data file having identification data associated therewith;
sensing user operation of an input device to select identification data associated with desired music data files for the playlist;
selecting a portion of the music data files to generate the playlist based on the user selected identification data;
processing the selected music data files with a CODEC to convert the selected music data files to audio data; and
providing the audio data to an output for connection to an audio output device.

19. The computer-readable media of claim 18 wherein the data associated with the stored music data files comprises metatags, the computer-readable media causing the processor to perform the steps of displaying the metatags and sensing user-operation of the input device to select metatags wherein selecting comprises generating the playlist based on the selected metatags.

20. The computer-readable media of claim 18, further causing the processor to sense user input to select a plurality of identification data and select music data files based on the user-selected plurality of identification data associated with the music data files.